# PITTSBURGH WATER AND SEWER AUTHORITY AND CITY OF PITTSBURGH MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PROGRAM INSPECTION REPORT

**JANUARY 2017**

**U.S. Environmental Protection Agency, Region III**
**Water Protection Division**
**Office of NPDES Enforcement (3WP42)**
**1650 Arch Street**
**Philadelphia, PA 19103**

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## EXECUTIVE SUMMARY

From December 6 through 7, 2016, a compliance inspection team comprising of staff from the U.S. Environmental Protection Agency (EPA) Region 3 and EPA's contractor, Eastern Research Group, Inc. (ERG), inspected the municipal separate storm sewer system (MS4) program of the Pittsburgh Water and Sewer Authority (PWSA) and City of Pittsburgh (the City) in Pennsylvania, collectively referred to as "Pittsburgh." Staff from the Pennsylvania Department of Environmental Protection (DEP) were present during the inspection.

The purpose of this inspection was to obtain information that will assist EPA in assessing Pittsburgh's compliance with the requirements of its National Pollutant Discharge Elimination System (NPDES) Individual Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s), as well as the implementation status of its current Stormwater Management Program.

Based on the information obtained and reviewed, EPA's compliance inspection team made several observations concerning Pittsburgh's MS4 program related to the specific permit requirements evaluated. At the conclusion of the onsite inspection, the EPA Inspection Team requested information from PWSA and the City to be made available by December 29, 2016. Table 1 below summarizes the permit requirements and the observations made by the inspection team.

Table 1. Summary of Permit Requirements and Inspection Observations

| | Observations |
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| **Protocol: Public Education and Outreach Minimum Control Measure** | Observation 1: At the time of the inspection, PWSA had documentation for the public education and outreach (PEO) activities that PWSA conducted after 2015. |
| **Protocol: Public Involvement and Participation Minimum Control Measure** | Observation 2: At the time of the inspection, PWSA was not documenting the PEO or public involvement and participation (PIP) activities conducted by the City. PWSA is responsible for compiling PEO and PIP information in the annual report. |
| **Protocol: Illicit Discharge Detection and Elimination Minimum Control Measure** | Observation 3: At the time of the inspection, it was unclear how many MS4 outfalls are in Pittsburgh's universe of outfalls.<br>Observation 4: At the time of the inspection, it appeared that some outfalls classified by PWSA as MS4 outfalls may be receiving CSO discharges.<br>Observation 5: At the time of the inspection, Pittsburgh was not screening all outfalls in the priority areas two times a year. The PWSA Environmental Compliance Manager told the EPA Inspection Team that PWSA first started screening outfalls in 2012. |

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| | Observation 6: At the time of the inspection, the City did not conduct routine dry weather screening of City-owned outfalls.<br>Observation 7: At the time of the inspection, it did not appear that PWSA was sampling for all of the parameters required by the Protocol. |

Table 1. Summary of Permit Requirements and Inspection Observations

| Observations | | |
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| | Observation 8: | At the time of the inspection, PWSA was not receiving dry weather sampling results from their internal lab within an adequate timeframe in order to detect and eliminate potential illicit discharges. |
| **Protocol: Construction Stormwater Runoff Management Minimum Control Measure** | Observation 9: | At the time of the inspection, Pittsburgh relied on the Allegheny County Conservation District (ACCD) to do reviews of erosion and sediment control (ESC) plans, but the City did not have an active memorandum of understanding (MOU) with ACCD. |
| **Protocol: Post-Construction Stormwater Runoff Management Minimum Control Measure** | Observation 10: | At the time of the EPA inspection, it was not clear if Pittsburgh was ensuring proper installation of postconstruction BMPs or monitoring privately-owned postconstruction BMPs following installation. |
| **Protocol: Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance Minimum Control Measure** | Observation 11: | At the time of the EPA inspection, Pittsburgh was not inspecting municipally-owned stormwater control facilities at least annually. |
| | Observation 12: | At the time of the EPA inspection, the City's DPW staff stated that Pittsburgh had not developed a comprehensive vehicle operations and maintenance program. |
| | Observation 13: | At the time of the EPA Inspection, an uncovered salt storage pile was observed at the DPW Third Division municipal facility. |
| | Observation 14: | At the time of the EPA inspection, Pittsburgh staff stated that each catch basin discharging to the MS4 is not inspected at least once annually to determine if it needs cleaning or repair. |
| | Observation 15: | t the time of the EPA inspection, the City's DPW staff are not provided training for a basic awareness of stormwater management. |

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## INTRODUCTION

From December 6 through 7, 2016, the EPA Inspection Team, consisting of staff from the U.S. Environmental Protection Agency (EPA) Region 3 and EPA's contractor, Eastern Research Group, Inc. (ERG), inspected the municipal separate storm sewer system (MS4) program of the Pittsburgh Water and Sewer Authority (PWSA) and City of Pittsburgh (the City), collectively referred to as "Pittsburgh." Staff from the Pennsylvania Department of Environmental Protection (DEP) were present during the inspection. Discharges from Pittsburgh's MS4 are authorized under Pennsylvania's 2004 National Pollutant Discharge Elimination System (NPDES) Individual Permit for Stormwater Discharges from Small MS4s (PAI136133) (the Permit), which is included in Appendix 1.

Part A.1 of the Permit requires permittees to "implement a stormwater management program approved by DEP." The permittee must either elect to use DEP's Stormwater Management Protocol ("Protocol") or develop all or part of its stormwater management program (SWMP) independent of the Protocol. At the time of the inspection, Pittsburgh had elected to use DEP's entire Protocol as their SWMP. In this report, readers should interpret the term "Permit" to include the Protocol.

The purpose of this inspection was to obtain information that will assist EPA in assessing Pittsburgh's compliance with the requirements of the Permit, as well as the implementation status of its current Stormwater Management Program. The inspection schedule is presented in Appendix 2.

The EPA Inspection Team obtained its information through a series of interviews with representatives from Pittsburgh, along with a series of site visits, record reviews, and field verification activities. The primary representatives involved in the inspection were the following:

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| Pittsburgh Water and Sewer Authority Representatives | Ms. Katherine Camp, Green Infrastructure Program Manager<br>Mr. Robert Gomez, Chemist I<br>Mr. Bob Hutton, Engineering Technical Services Manager<br>Mr. Thomas Leech, Superintendent of Field Operations<br>Mr. Bernie Lindstrom, Executive Director<br>Mr. Rick Obermeier, Director of Sewer Operations<br>Mr. James Stitt, Manager of Sustainability<br>Mr. Bob Weimar, Director of Engineering and Construction<br>Ms. Faith Wydra, Environmental Compliance Manager<br>Ms. Megan Zeigler, Green Infrastructure Coordinator |
| City of Pittsburgh Representatives | **Department of Public Works**<br>Mr. Bill Crean, Superintendent<br>Mr. John McClory, Supervisor |

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|---|---|
| | Mr. Tom Paulin, Superintendent |
| | Mr. Dick Wolford, Foreman |
| | **Department of City Planning** |
| | Mr. Josh Lippert, Senior Environmental Planner |
| EPA Representatives: | Mr. Aryel Abramovitz, Enforcement Officer |
| | Ms. Rebecca Crane, Enforcement Officer |
| | Ms. Kaitlin McLaughlin, Enforcement Officer |
| | Ms. Keila Pagan-Incle, Environmental Engineer (Inspector) |
| DEP Representatives: | Mr. Paul Eisworth, CSO Coordinator |
| | Ms. Stacey Greenwald, Water Quality Specialist Supervisor |
| | Mr. Harris Mahmud, Permit Engineer |
| | Mr. John Murphy, Water Quality Specialist |
| EPA Contractors: | Mr. Cassidy Owen, ERG |
| | Ms. Daisy Wang, ERG |

For a complete list of all inspection participants, please refer to the sign-in sheets in Appendix 3.

During the inspection, the EPA Inspection Team obtained documentation regarding compliance with the Permit. Pertinent information may have been obtained prior to and/or after meeting with Pittsburgh staff during the physical inspection, and is presented in this report as observations. The presentation of inspection observations in this report does not constitute a formal compliance determination or notice of violation. All referenced documentation is provided in Appendix 4 and photographs taken during the inspection are provided in Appendix 5. A complete list of documents obtained is provided as a Document Log in Appendix 6.

Precipitation was experienced through a portion of the inspection activities. Weather history reports from the Pittsburgh Allegheny County Airport indicated that there was 0.50 inches of precipitation in Pittsburgh during the field work component of the inspection activities. In addition, the weather history reports indicated that 0.12 inches of precipitation had fallen in the three days prior to the inspection and no precipitation fell in the three days following the inspection.

The report identifies Permit requirements with specific sections cited and observations made during the inspection. The format of the report follows the organization system used in the Permit and is sequential. Sections of the Permit are restated with observations about those requirements listed below.

## PITTSBURGH MS4 PROGRAM BACKGROUND

Pittsburgh has been developing and implementing its MS4 program since 2004. Pittsburgh submitted their individual permit application for coverage under the 2004 Permit on March 10,

2003. Pittsburgh's coverage under the 2004 NPDES permit program became effective on September 29, 2004, with an expiration date of March 9, 2008. Pittsburgh submitted their individual permit application for MS4 permit coverage on September 14, 2012 (see Appendix 1) and has not yet received coverage. Representatives from DEP explained that Pittsburgh's application for coverage was never processed for several reasons, including that DEP had not yet established the guidelines for reviewing Pittsburgh's TMDL Plan. Therefore, the 2004 permit was effectively administratively extended. Representatives from DEP explained to the EPA Inspection Team and Pittsburgh that they are focused on looking forward to the next permit cycle, and encouraged Pittsburgh to prepare for the next round of permit obligations.

Pittsburgh encompasses approximately 35,436 acres of land, and is located within Allegheny County, Pennsylvania. Approximately 70 percent of Pittsburgh's 1,200 mile sewer system is combined, serving the high density urban areas in the center of the city. Pittsburgh's separate storm sewer primarily serves the lower density areas around the border of the city. Pittsburgh has a population of 304,391, but Pittsburgh's MS4 only serves approximately 10 to 15 percent of the total population, or approximately 30,000 to 40,000 people. Pittsburgh's MS4 discharges into the Monongahela River, Allegheny River, and Ohio River, which include the sub-watersheds of Nine Mile Run, Chartiers Creek, and Saw Mill Run. Pittsburgh's MS4 borders the MS4 systems of several municipalities that surrounding the city, including Greentree Borough, Ingram Borough, Baldwin Township, Brentwood Borough, Dormont Borough, Kennedy Township, Mt. Lebanon Township, Penn Hills, Robinson Township, and Swissvale Borough.

The Permit is implemented jointly by the Pittsburgh Water and Sewer Authority (PWSA) and the City of Pittsburgh (the City), collectively referred to as "Pittsburgh." At the time of the inspection, PWSA and the City did not have written agreements or protocols to document the division of permit implementation responsibility. Pittsburgh does not have staff members dedicated to implementing the MS4 program. PWSA's Environmental Compliance Manager helps to coordinate many of the program components and compile the annual report. Other PWSA and City staff support the program as part of their regular responsibilities. Pittsburgh does not have a stormwater specific budget; but they are moving towards implementing a stormwater utility fee, potentially by 2018. Pittsburgh staff members are paid to do MS4 activities as part of their regular annual salary. During the pre-inspection conference call held on December 2, 2016, staff from PWSA told the EPA Inspection Team that Pittsburgh has been focused on addressing their combined sewer overflow and flooding issues, and that MS4 issues are not their primary concern at this time.

Pittsburgh began developing a Total Maximum Daily Load (TMDL) Strategy for the Saw Mill Run watershed in 2013. According to the Saw Mill Run TMDL Strategy, submitted to DEP in December 2015, the streams in the Saw Mill Run watershed have been listed on the DEP's 303(d) list for several different impairments, including nutrients and sediment. In addition to the TMDLs, there are other regulatory requirements for this watershed, including combined sewer overflow/sanitary sewer overflow (CSO/SSO) controls with Consent Orders and Agreements (COAs) for multiple jurisdictions. There are 12 municipalities, including the City of Pittsburgh and non-government entities, such as PWSA and the Allegheny County Sanitary Authority (ALCOSAN), responsible for meeting the various regulatory requirements. Approximately 50 percent of the watershed area (19 square miles) is within the City.

Led by the City and PWSA, the aforementioned entities have formed the Saw Mill Run Watershed Association and are developing an Integrated Watershed Management Plan (IWMP). The IWMP is a holistic approach to addressing the multiple sources of surface water pollution, including from combined and sanitary overflows and stormwater. The Saw Mill Run TMDL Strategy states that "…the IWMP for Saw Mill Run seeks to replace the traditional, end-of-pipe solution for the CSOs and SSOs in the watershed with a combination of green, gray and watershed-wide elements…that not only achieve PWSA's, ALCOSAN's and the municipalities' consent order & Clean Water Act requirements, but also address other water quality and quantity issues, including stormwater,… improve quality of life and contribute to economic development, wherever possible." Although the IWMP is being developed cooperatively by all the municipalities in the watershed, each municipality is developing its own response to TMDL implementation. DEP has not approved Pittsburgh's 2015 Saw Mill Run TMDL Strategy to date; however, Pittsburgh has been moving forward with the TMDL activities that overlap with developing the IWMP. At the time of the inspection, PWSA's Manager of Sustainability told the EPA Inspection Team that PWSA coordinated data gathering, developing hydrologic models, planning demonstration projects, and selecting consistent metrics to evaluate changes in water quality. At the time of the inspection, PWSA had just completed collecting watershed data and selecting the first set of demonstration projects. Their goal is to complete the IWMP by the end of 2017.

## NPDES PERMIT No. PAI136133.Part A. STORMWATER MANAGEMENT PROGRAM.2. MINIMUM CONTROL MEASURES

Public Education and Outreach

Develop and implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities, about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in the stormwater runoff.

Public Participation and Involvement

Implement procedures for receipt and consideration of information submitted by the public. Comply with state and local public notice requirements.

Illicit Discharge Detection and Elimination

Implement and enforce a program to detect and eliminate illicit discharges into the MS4:

- Develop a storm sewer system map, showing the location of all outfalls and the names and locations of all surface waters that receive discharges from those outfalls;
- Enact an ordinance prohibiting non-stormwater discharges into the MS4;
- Implement appropriate enforcement procedures and actions for the ordinance;
- Develop a plan to detect and address non-stormwater discharges including illegal dumping, to the MS4;

- Inform public employees, businesses and the Individual public of the hazards associated with illegal discharges and improper disposal of waste, and
- Apply the preceding requirements to the types of discharges or flows identified in Section C.1.b of this Individual Permit only if they are identified as significant contributors of pollution to the MS4 and its discharges.

Construction Site Runoff Control

Implement and enforce a program to reduce pollution in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre, including projects of less than one acre that are part of a larger common plan of development or sale that equals one acre or more:

- Enact an ordinance to require erosion and sediment controls, as well as sanctions to ensure compliance;
- Require construction site operators to implement appropriate erosion and sediment control best management practices (BMPs);
- Require construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site that may cause adverse impacts to water quality;
- Implement procedures for site plan review which incorporate consideration of potential water quality impacts;
- Implement procedures for receipt and consideration of information submitted by the public; and
- Implement procedures for site inspection and enforcement of control measures.

Post-Construction Stormwater Management in New Development and Redevelopment

Implement and enforce a program to reduce pollution in any stormwater runoff to the MS4 from new development and redevelopment projects that result in a land disturbance of greater than or equal to one acre, including projects of less than one acre that are part of a larger common plan of development or sale that equals one acre or more;

- Implement strategies which include a combination of structural and/or nonstructural BMPs appropriate to the local community;
- Require infiltration BMPs where practicable
- Use an ordinance to address post-construction runoff from new development and redevelopment projects; and
- Ensure adequate long-term operation and maintenance of the BMPs.

Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance

Implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Include employee training to prevent and reduce stormwater pollution from activities such as park and

open space maintenance, new construction and land disturbances, and stormwater system maintenance.

**MS4 STORMWATER MANAGEMENT PROGRAM PROTOCOL- Public Education and Outreach Minimum Control Measure**

**Public Education Plan: What Do I Need to Do and By When?**
…Your first goal will be to decide how to reach your target audiences. You have three categories of target audiences that you will need to reach: 1) existing homeowners; 2) existing business owners; and 3) developers. The people that comprise each of these groups have the potential to impact the quality of stormwater in your community.

By the end of Year 1, you should have a comprehensive plan in place that will help you tap into your target audiences' existing communication channels to inform them about improving stormwater quality. During the following permit years, you will update your plan to ensure information about your target audiences is accurate. To accomplish this, complete the following tasks:

**Year 1: Develop A Public Education Plan**
Complete the public education portion of the plan template.
A template for a plan is included in the References and Resources accompanying this Protocol (provided on CD to the municipality, and available on the DEP website, www.dep.state.pa.us. directLiNK "stormwater").

Collect information on your three target audience categories. You may use the worksheet provided in the References and Resources. The questions contained in the template will help you become familiar with the communication channels most used by each target audience. Through this activity, you will create a comprehensive inventory of the newsletters, newspapers, web sites, meetings, magazines, organizations, associations, etc. used by your target audiences.

**Years 2, 3, 4 and 5: Update Target Audience Information**
Review your plan and provide new information about your target audiences and their communication channels.
During the remaining years of your permit, you are responsible for ensuring that information in your plan is accurate and current. Your target audiences may expand (or condense) in size during the course of a permit year. Ways of communicating may also change from year to year. As you learn of new communication channels (e.g., newsletters, web sites, meetings, etc.), enter this information into your plan and modify your strategies for distributing educational materials. New information will help you to leverage resources for distributing educational materials.

Observation 1: At the time of the inspection, PWSA had documentation for the public education and outreach (PEO) activities that PWSA conducted after 2015. PWSA's Environmental Compliance Manager explained to the EPA Inspection Team that when she started in 2015, she realized that PWSA was doing a significant number of undocumented PEO activities. Prior to

2015, the PEO documentation consisted of a three-page combined Public Education and Outreach Plan (PEOP) and Public Involvement and Participation Plan (PIPP) from 2014 (see Exhibit 1 in Appendix 4). Starting in 2015, the Environmental Compliance Manager began to revise the PEOP and PIPP, compile target audience information, and comprehensively document all PWSA's PEO activities. Due to the lack of documentation prior to 2015, it is unclear to the EPA Inspection Team whether or not PWSA had developed target audience information, or if PEO activities had been conducted.

The PWSA Environmental Compliance Manager told the EPA Inspection Team that PWSA is responsible for compiling the annual report, but PWSA does not document PEO activities conducted by the City (see Observation 2).

**MS4 STORMWATER MANAGEMENT PROGRAM PROTOCOL-Public Involvement and Participation Minimum Control Measure**

**Public Involvement and Participation Plan: What Do I Need to Do and By When?** Follow the schedule in this Minimum Control Measure, shown above. If you are following a watershed-based approach under Act 167 (or otherwise as approved by DEP), your schedule of compliance can be delayed one year for each element.

Prior to adoption of any ordinance required under this Protocol, provide adequate public notice, opportunities for public review and input, and hold hearings to obtain public feedback as appropriate. This can be done in conjunction with normal public sessions of the municipal governing body. The notice must be published in the local newspaper of general circulation. Ensure broad reach of the public notice, including diverse economic and ethnic backgrounds in the municipality.

When working with your county officials under Act 167, typically the county provides notice and conducts a hearing pursuant to the law. Consider involving citizen groups, watershed organizations and businesses as much as possible, to obtain broad support for your stormwater efforts.

Your permit requirements layout the "what" and "when" of this minimum measure component; what it does not do is specify the "how." How you will distribute obtain good public participation and involvement is up to you. Use your public involvement/participation program development in Year 1 to determine the most effective means of achieving success in this Minimum Control Measure.

Any additional public participation and involvement activities not listed here may be used to show compliance with this Minimum Control Measure. This includes activities by watershed groups.

Observation 2: At the time of the inspection, PWSA was not documenting the PEO or public involvement and participation (PIP) activities conducted by the City. PWSA is responsible for compiling PEO and PIP information in the annual report. In particular, PWSA's Environmental Compliance Manager explained that PWSA did not have documentation of the City providing adequate public notice and opportunities for public review, input, and feedback during the development of Pittsburgh's 2006 stormwater ordinance. The EPA Inspection Team requested these records in the postinspection records request (see Appendix 7). As of the date of this report, PWSA has not provided the requested documentation. They explained that the information has been requested from City staff and will be made available at a later date.

## MS4 STORMWATER MANAGEMENT PROGRAM PROTOCOL- Illicit Discharge Detection and Elimination (IDD&E) Minimum Control Measure

### Storm Sewer System Mapping: What Do I Need to Do and By When?

Pursuant to the schedule at the beginning of this section of the Protocol, you must have a comprehensive map of your municipal separate storm sewer system (MS4) outfalls and receiving waters that will allow you to effectively implement the illicit discharge detection and elimination program described in the next section of this document. You must also have a list of priority areas in the system for efforts to trace the sources and eliminate illicit and illegal discharges and a procedure for program evaluation and assessment. If you are following a watershed-based approach under Act 167 (or otherwise as approved by DEP), your schedule of compliance can be delayed one year for each element.

### Sources of Information

You can accomplish this activity by reviewing city records, drainage maps and existing storm drain maps. You may need to conduct field surveys to verify outfall locations. Field surveys will also give you the opportunity to locate any additional outfalls that were previously unknown.

### Developing the Map

Devise an internal coding system for your outfalls that you can use on your system map. This will allow you to reference the location of outfalls easily, rather than using cumbersome and subjective narrative descriptions, when conducting your field screening activities under the IDD&E Program, described later in this section.

Show the location of all outfalls and the names and locations of all surface waters that receive discharges from those outfalls. Include all outfalls that are physically connected to the system, even those that are outside of the Urbanized Area boundary.

**High-Risk Problem Areas**

Identify areas within your community that are high-risk for dumping to storm sewer system inlets and illegal connections to the system, such as sections of the system with older sanitary sewer lines or industrial activity and those areas with known incidences of illicit discharges, connections or illegal dumping in the past. The information that you collected when creating the outfall map should prove useful when prioritizing high-risk areas.

In addition, you should conduct visual outfall screening during dry weather. Where dry weather flows are observed, conduct field tests of selected pollutants to establish priority areas (this is described later in this *Protocol*). Use the results when evaluating the high-risk areas.

Prioritize these high-risk areas that are likely to have illicit discharges, illegal connections to the system, and illegal dumping. Beginning in Year 2, each year identify the highest priority areas for 25 percent of the system until the entire system is prioritized by the end of the permit term. This list will be the Priority List for Illicit Discharge Elimination described in a following section of this component of the *Protocol*.

Observation 3: At the time of the inspection, it was unclear how many MS4 outfalls are in Pittsburgh's universe of outfalls. According to PWSA's Storm Outfall Overview Map, dated May 2016 (see Exhibit 2 in Appendix 4), there are a total of 399 outfalls, comprising 186 PWSA outfalls and 213 private outfalls. PWSA's Superintendent of Field Operations told the EPA Inspection Team that in this map, City-owned outfalls (i.e., maintained by Pittsburgh's Department of Public Works) were included in the count of private outfalls. However, according to PWSA's Sampling Result Summary spreadsheet (see Exhibit 3 in Appendix 4), PWSA hired a consultant to screen 470 outfalls in 2012. Of the 470 outfalls, 144 outfalls have an Outfall Number that begins with "DPW," which the EPA Inspection Team presumes to mean that they are a City-owned and maintained outfall. Overall, it is unclear why there are 71 less outfalls included on the 2016 Storm Outfall Overview Map than on the Sampling Results Summary spreadsheet.

Observation 4:

At the time of the inspection, it appeared that some outfalls classified by PWSA as MS4 outfalls may be receiving CSO discharges. During the inspection, PWSA's Superintendent of Field Operations showed the EPA Inspection Team an example of this sewer configuration with outfall OF015P001 on PWSA's GIS-based storm sewer map. This outfall appears to be separate because it receives stormwater runoff from a portion of separate sewer immediately upgradient of the outfall. However, further upgradient of where the separate sewer joins the sewer main line, the main line connects to a combined sewer interceptor. PWSA's Superintendent of Field Operations explained that due to this configuration, larger storm events may cause outfall OF015P001 to have CSOs. In addition, he stated that residue left in the pipe from CSO events could impact MS4 illicit discharge screening. DEP's CSO Coordinator stated that he believed this outfall should be one of Pittsburgh's CSO outfalls. At the time of the inspection, the EPA Inspection Team did not cross check Pittsburgh's universe of MS4 outfalls against a list of their CSO outfalls.

According to PWSA's Sampling Results Summary spreadsheet, dry weather flow from outfall OF015P001 was sampled on November 18, 2015. This outfall was one of the nine outfalls that PWSA screened in 2015 (see Observation 5). The sampling results came back with fecal coliform greater than 20,000 CFU/100mL, 1.46 mg/L ammonia nitrogen, 2.41 mg/L aluminum, and 1.03 mg/L iron (see Exhibit 3 in Appendix 4). Although PWSA does not indicate in their Sampling Results Summary spreadsheet whether or not these results are an issue, the PWSA Superintendent of Field Operations acknowledged to the EPA Inspection Team that he considered these sample results "hot" for fecal coliform. It is unclear whether or not PWSA conducted any further follow-up activities at this outfall to identify and eliminate the source of fecal coliform.

At the time of the inspection, PWSA was unsure of how many MS4 outfalls had this type of configuration. Therefore, it is also unclear how many outfalls in this configuration are included in PWSA's dry weather screening activities.

**Illicit Discharge Detection and Elimination: What Do I Need to Do and By When?**

**1. Field Screening**

Field screening is necessary to identify the source(s) of the actual illicit discharges. The Priority List that you create each year will serve as the basis for your field screening activities. You must start your annual field screening in Year 2 of your permit. If you are following a watershed-based approach under Act 167 (or otherwise as approved by DEP), your schedule of compliance can be delayed one year.

The Checklist provided in this Protocol (see the References and Resources CD-ROM and

Appendix 1) must be used when conducting field screening. Every outfall in the Priority Areas must be screened two times a year as each priority area is screened. This activity is something that you can piggy-back onto other existing field activities, such as regularly scheduled fire hydrant inspections, road repairs, landscaping activities, other field work conducted during county preparation of the Act 167 stormwater plan, etc.

Using the Checklist, the staff designated to conduct field screening will go out into the Priority Areas and collect visual data. The screening should be conducted at least 72 hours since the last precipitation event, and that at least 48 hours should pass between the first screening at a particular outfall and the second screening at that outfall. If someone conducting the field screening discovers a dry-weather flow, they (or another designated individual with the proper training) must collect a sample of that flow for analysis. Such a discovery triggers the requirements under the other two program elements:

- Identify Source of Illicit Discharges
- Remove or Correct Illicit Discharges

Observation 5: At the time of the inspection, Pittsburgh was not screening all outfalls in the priority areas two times a year. The PWSA Environmental Compliance Manager told the EPA Inspection Team that PWSA first started screening outfalls in 2012. It should be noted that Pittsburgh's permit was issued in 2004, and is still administratively extended. In 2012, PWSA hired a consultant to screen all publicly-owned outfalls in the MS4 at least once. According to PWSA's Sampling Results Summary spreadsheet (see Exhibit 3 in Appendix 4), 470 outfalls were screened in 2012. Of the outfalls screened approximately 46 outfalls were found to have dry weather flow. PWSA's Environmental Compliance Manager told the EPA Inspection Team that as a result of the 2012 outfall screenings, PWSA selected the Saw Mill River watershed as a priority area because there were more outfalls in that area with dry weather flow than other areas of the City. According to Section 2.1 of PWSA's Saw Mill Run TMDL Strategy (p. 6), PWSA has 74 outfalls identified in the Saw Mill Run watershed that discharge to the main stem and tributaries. PWSA continues to focus on the Saw Mill River watershed as a priority area. At the time of the inspection PWSA had not identified any other priority areas in their MS4 area and it did not appear that PWSA kept a separate list of priority area outfall IDs.

After the initial screening in 2012, Pittsburgh screened outfalls in 2013, 2015, and 2016. In 2013, PWSA contracted Chester Engineering to screen 41 outfalls that were identified during the 2012 screenings to have dry weather flow and fecal coliform. The results of this screening effort are documented in a January 2014 report (see Exhibit 4 in Appendix 4), but not included in PWSA's Sampling Results Summary spreadsheet. It appears that Chester Engineering visited some of the outfalls more than once during 2013 to conduct follow-up activities, and it does not appear

that all 41 outfalls are within the Saw Mill River watershed. However, due to the format of the report, it is difficult to determine how many of the outfalls were visited at least twice and are in the priority area.

PWSA's Environmental Compliance Manager told the EPA Inspection Team that in 2015, PWSA contracted a third-party to screen nine outfalls. The EPA Inspection Team determined that the nine outfalls were flagged as having an incomplete investigation from Chester Engineering's 2013 effort based on information from the Sampling Results Summary spreadsheet and Chester Engineering's report. The nine outfalls were screened once in March 2015, and at least five of the outfalls are located in the Saw Mill Run (SMR) watershed. PWSA's Environmental Compliance Manager also told the EPA Inspection Team that later in 2015, PWSA's field operations staff screened four additional outfalls. The EPA Inspection Team determined that three of the four outfalls had been screened by Chester in 2013, and two were in the Saw Mill River watershed. All 13 outfalls screened in 2015 were found to have dry weather flow. PWSA provided the EPA Inspection Team with outfall reconnaissance sheets and lab results for the four outfalls screened by PWSA field operations (see Observation 7).

Finally, PWSA's Environmental Compliance Manager told the EPA Inspection Team that in September 2016, PWSA contracted a third-party to conduct a stream walk along a segment of the Saw Mill River. As a result of the stream walk, PWSA identified six outfalls to collect samples from, four of which had dry weather flow on the sampling day. Samples were collected by PWSA's internal lab staff and PWSA's field operations crew on November 17 and 18, 2016. PWSA did not receive the lab results until December 7, 2016 (see Observation 8). The stream walk notes provided to the EPA Inspection Team indicate that activities occurred in July 2016, therefore the time period when the stream walk occurred is unclear.

PWSA's Environmental Compliance Manager told the EPA Inspection team that moving forward, PWSA plans to screen ten outfalls per quarter. This screening level will result in a maximum of 20 outfalls screened two times a year.

Observation 6: At the time of the inspection, the City did not conduct routine dry weather screening of City-owned outfalls. PWSA staff stated that the City was responsible for screening and maintaining City-owned outfalls (i.e., outfalls that are not directly discharging from PWSA's sewer lines). The City's Department of Public Works (DPW) Superintendent stated that DPW proactively checks culverts and outfalls prior to storm events, to remove any obstructions that might cause flooding. In addition, they visit outfalls in response to complaints. One of DPW's Supervisors told the

EPA Inspection Team that during their outfall visits, they do not complete the Outfall Reconnaissance sheet that PWSA uses. DPW's Superintendent stated that DPW staff do not receive illicit discharge detection and elimination specific training, and that they have never observed an illicit discharge from their outfalls.

PWSA's Superintendent of Field Operations noted that most outfalls maintained by DPW are direct discharges from catch basin overflows, since they are not connected to PWSA's sewer lines. On December 7, 2016, the EPA Inspection Team visited three outfalls that are maintained by DPW that had this type of configuration (see Photographs 1-13 in Appendix 5). It should be noted that the EPA Inspection Team was unable to find the City-owned outfall located on Industrial Highway due to the steepness of the embankment. The EPA Inspection Team found a metal pipe near the top of the embankment, but it was unclear if this pipe conveys water from the catch basin because the pipe elevation appeared to be higher than the overflow pipe located inside the catch basin. In addition, the City-owned outfall on the northwestern end of Pensdale Street is also the outlet of a piped section of an unnamed creek. PWSA's Superintendent of Field Operations did not know the Outfall IDs at the time of the inspection. The EPA Inspection Team requested the Outfall IDs in the post-inspection records request (see Appendix 7). As of the date of this report, PWSA has not provided the requested documentation. PWSA explained that the information has been requested from City staff and will be made available at a later date. PWSA's Superintendent of Field Operations stated that PWSA helps the City inspect and clean out the catch basins upgradient of these outfalls.

**2. Identify Source of the Illicit Discharge**

The following IDD&E Program elements only apply if you identify a dry-weather flow during your field screening activities in Years 2, 3, 4, and/or 5. You will need to conduct all the activities described below for each illicit discharge that you identify during field screening.

- **Collect and analyze samples of the dry-weather flow.**

  If you identify a dry-weather flow at an outfall during field screening, take two grab samples of the flow. Analyze the samples for the characteristics and pollutants listed in the Table below.

| Characteristic/Pollutant | Method |
|---|---|
| Color | Visual observation |
| Odor | Visual observation |
| Turbidity | Visual observation |
| Sheen/scum | Visual observation |
| pH | In-field analysis |
| Total chlorine | In-field analysis |

| | |
|---|---|
| Total copper | In-field analysis |
| Total phenol | In-field analysis |
| Detergents/surfactants | In-field analysis |
| Flow | In-field measurement |
| Bacteria | Laboratory analysis |

As shown in the Table, some parameters only require visual observations while others require more analytical testing. You can use inexpensive colorimetric field test kits to analyze your grab samples for total chlorine, total copper, total phenol, and detergents. You will need this information to effectively determine the type of pollutants and pinpoint the source of the discharge. The field screening checklist, along with the sampling resource materials, referred to in this section will provide you with helpful information on techniques for taking grab samples and the methods to use for analyzing your samples.

- **Identify the source of the discharge.**
  The data you obtain from visual, in-field, and laboratory analysis will provide you with the information necessary to determine the source of the dry-weather flow or floatables. Based on the pollutants contained in your grab sample, you should have an idea if the source is from illegal dumping in a storm drain, a crossconnection, or a leak in a pipe. Using this information, you will be able to narrow down the potential sources of the dry-weather flow and begin storm drain investigations by tracing the flow upstream using your storm drain maps and by inspecting upgradient manholes and storm drains. If need be, you can also conduct more focused tests to pinpoint the source.

  You may decide to conduct smoke and dye testing; however, these additional costs may not be allowable under the Act 167 reimbursement program.

3. **Remove or Correct the Illicit Discharge**
   - **Determine if the flow is from illegal dumping or an improper connection.**
     Once you identify the source, you need to determine if it is a case of improper dumping or if a property owner has an improper physical connection to your storm sewer system. This will help you select the most appropriate method for correcting or removing the discharge. If it is a case of improper dumping, your only recourse may be to conduct intensified education of residents living in and traveling through that area. If it is a case of an improper physical connection, see the next paragraph.

   - **Take the appropriate action to correct the discharge.**
     If a violation is found, notify the property owner of the violation. Give the property owner a timeframe for removal of the source. After that time has passed, screen the outfall at which you identified the dry weather discharge. In addition, visit the property again to confirm that the property owner removed or corrected the source. If the property owner has not resolved the problem in the allotted timeframe, you may need to take further action.

- **Document all steps taken**
  The results of all discussions, tests, and screenings, should be documented for follow-up purposes. Progress evaluation of your IDD&E program will depend on the ability to tabulate the number of illicit connections corrected and the status of those in the process of being corrected.

- **List the status of all illicit discharges detected in your Annual Report Form to DEP**

Observation 7: At the time of the inspection, it did not appear that PWSA was sampling for all of the parameters required by the Protocol. Specifically, PWSA does not appear to sample for total chlorine, total copper, total phenols, or surfactants/detergents. This was determined based on the column headers in the Sampling Results Summary spreadsheet (see Exhibit 3 in Appendix 4) and outfall reconnaissance sheets provided to the EPA Inspection Team for the outfalls that PWSA screened in 2015 (OF015P001, OF016M001, OF0067F002, and OF106D001) (see Exhibit 5 in Appendix 4).

Observation 8: At the time of the inspection, PWSA was not receiving dry weather sampling results from their internal lab within an adequate timeframe in order to detect and eliminate potential illicit discharges. PWSA used their in-house lab to collect and analyze samples from four outfalls on November 17 and 18, 2016, but the lab did not provide the completed outfall reconnaissance sheets or sample results with the Environmental Compliance Manager until December 7, 2016. During the inspection, the Environmental Compliance Manager expressed to the EPA Inspection Team that this was a known problem, and that she had asked the lab director for the sampling results several times. She further explained that PWSA plans to contract out the lab services in the near future to make the process more reliable.

PWSA's Environmental Compliance Manager stated that after she receives the lab results, PWSA will do follow-up screening on outfalls with elevated sample results. In the event of a repeat dry weather discharge, they will investigate up the sewer line up to identify the source of discharge. The EPA Inspection Team observed that this practice would mainly be useful in detecting potential illicit connections, but not one-time illicit discharges.

It is unclear whether or not the PWSA internal lab provided timely results for the four sampling events conducted in 2015. It is also unclear whether or not PWSA received timely results from the contracted sampling activities that occurred in 2012 or 2013.

## MS4 STORMWATER MANAGEMENT PROGRAM PROTOCOL-Construction Stormwater Runoff Management Minimum Control Measure

**Construction Site Stormwater Program: What Do I Need to Do and By When?**
Pursuant to the schedule at the beginning of this section of the Protocol, you must (1) enact an ordinance (or revise your existing one) (2) arrange for review of Erosion and Sediment Control plans, and (3) require proof of issuance of NPDES permits where they are required. After that, you must implement the ordinance and the E&S plan review process. If you are following a watershed-based approach under Act 167 (or otherwise as approved by DEP), your schedule of compliance can be delayed one year for each element.

Ordinance: The ordinance must contain two basic requirements regarding any earth disturbance greater than or equal to one acre that results in runoff to your MS4 (or five acres or more regardless of the planned runoff): (1) review and approval of the Erosion and Sediment Control Plan by the municipality, or the CCD or DEP (e.g., as part of issuance of NPDES Stormwater Construction Permits), and (2) the review and approval (and permit) must also be a prerequisite for any building permits and other land development permits or approvals.

A model ordinance is available from DEP.

Arrangement With County Conservation District: If you use the local CCD for your reviews and approvals, you must have an agreement with your local CCD that addresses these reviews and permitting requirements. This agreement ensures the close coordination between the municipality and the CCD on these important issues affecting water quality.

Satisfaction of these review and approval requirements can be met by a letter from the local CCD (in the county where the project is located) indicating that (1) the CCD has reviewed and approved the applicant's Erosion and Sediment Control Plan developed in accordance with the regulatory requirements and, where required, (2) an NPDES Stormwater Construction Permit has been issued.

In some counties, the CCD may not wish to participate in this approach. In those cases, the municipality will have to make arrangements with DEP. Nothing in PAG-13 or this Protocol changes the requirements in Chapter 102 or the NPDES Stormwater Construction Permit programs.

Observation 9: At the time of the inspection, Pittsburgh relied on the Allegheny County Conservation District (ACCD) to do reviews of erosion and sediment control (ESC) plans, but the City did not have an active memorandum of understanding (MOU) with ACCD. PWSA's Environmental Coordinator explained that the City previously had a MOU with ACCD to implement the construction minimum control measure. It should be noted that the previous MOU is between ACCD and the City because PWSA is not a municipality. Pittsburgh provided the EPA Inspection Team with an email from the ACCD explaining that although there is currently no MOU in place, the ACCD has still being doing work for Pittsburgh as though there

were an MOU (see Exhibit 6 in Appendix 4). After the EPA inspection, Pittsburgh provided the EPA Inspection Team with a copy of a draft MOU, which stated that the ACCD is responsible for reviewing ESC plans and conducting ESC inspections during active construction (see Exhibit 7 in Appendix 4). The EPA Inspection Team also requested a copy of the previous MOU. As of the date of this report, PWSA has not provided the requested documentation. They explained that the information has been requested from City staff and will be made available at a later date (see Appendix 7).

On December 6, 2017, the EPA Inspection Team attempted to visit the Uber Advanced Technology Center (UATC) privately-owned BMP. The EPA Inspection Team was unable to view the BMP due to privacy fencing. However, the EPA Inspection Team observed what appeared to be an active construction site next to the UATC; the site was partially unstabilized and there was construction equipment nearby. The area included an unstabilized dirt drainage ditch at the southern end of the UATC along Tecumseh Street (See Photographs 14-21 in Appendix 5). The City's Senior Environmental Planner stated that he did not believe this drainage ditch was part of the UATC BMP. One side of the drainage ditch, which was partially stabilized with plantings, was receiving piped discharge from the UATC BMP. The drainage ditch was also receiving surface runoff from the nearby roadways. The ditch was approximately 300 yards long and was carrying silt-laden stormwater, which discharged into an overflow structure near the Monongahela River. It was unclear if this overflow structure discharged to the MS4 or sanitary sewer. It was also unclear if the silty discharge was a result of the stormwater piped from the UATC BMP and/or erosion and runoff from the unstabilized drainage ditch. The City's Senior Environmental Planner stated that he would notify the ACCD of the silty discharge since it appeared to be associated with a construction site. It is unknown if the City notified the ACCD of the silty discharge from this site.

## MS4 STORMWATER MANAGEMENT PROGRAM PROTOCOL-Post-Construction Stormwater Runoff Management Minimum Control Measure

### Operation and Maintenance of Post-Construction BMPs: What Do I Need to Do and By When?

You need to have a monitoring program that ensures that the post-construction BMPs are constructed, operated and maintained, within the first permit term. If you are following a watershed-based approach under Act 167 (or otherwise as approved by DEP), your schedule of compliance can be delayed one year for each element.

Your program must have two elements:

- Implementation: ensure installation of the BMPs as designed. Coordinate your monitoring with the CCD, especially where a permit has been issued.
- Operation and Maintenance: some of the structural BMPs will require maintenance over time to be effective. You must have a system to monitor these BMPs. If any BMPs are not operated or maintained and are ineffective, develop a plan to address them. The DEP Model Ordinance provide legal tools to accomplish this.

Observation 10

At the time of the EPA inspection, it was not clear if Pittsburgh was ensuring proper installation of post-construction BMPs. The City was not monitoring privately-owned post-construction BMPs following installation. The City's Senior Environmental Planner explained that the ACCD performs an on-site inspection of ESC plans during construction and sometimes reviews post-construction stormwater structures at the end of construction. Pittsburgh's draft MOU with the ACCD does not include provisions for inspecting the installation of post-construction BMPs (see Exhibit 7 in Appendix 4). The City's Senior Environmental Planner explained that there is no protocol established or entity identified to conduct regular inspections or system in place to monitor privately-owned structures following construction.

On December 6, 2017, the EPA Inspection Team visited the Station Square privately-owned BMP. This BMP was located in a parking lot and consisted of a dry detention basin with an overflow structure. The City's Senior Environmental Planner explained that the BMP owner had maintenance plans in place. Following the inspection, the EPA Inspection Team requested the maintenance plans for the Station Square BMP. As of the date of this report, Pittsburgh has not provided the requested (see Appendix 7).

**MS4 STORMWATER MANAGEMENT PROGRAM PROTOCOL-Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance**

**Pollution Prevention Program for Municipal Operations: What Do I Need to Do and By When?**

**Year 2: Develop O&M Program**
**Stormwater Facilities**

*Inspect all municipally-owned stormwater facilities*
Stormwater control facilities (and other BMPs) are important components of the MS4 and its ability to prevent stormwater impacts downstream. You must establish "baseline" information on these facilities in your MS4, if you haven't done so already. Your inspections should document current conditions and identify any needed maintenance or repair. If any system features are not functioning properly, a plan to address the deficiencies must be developed.

*Develop a Stormwater Facility Operations and Maintenance Program*
Using the criteria and requirements described below for Year 3, establish and operations and maintenance program for all municipally-owned storm system facilities and other BMPs. All municipally-owned facilities will be inspected at least annually during the remainder of the permit term (years 3, 4, and 5) to ensure they are meeting design criteria and are properly maintained and functional. By the end of year 2, you must have a detailed schedule for inspecting all stormwater facilities, and for their operation and maintenance.

Observation 11: At the time of the EPA inspection, Pittsburgh was not inspecting municipally-owned stormwater control facilities at least annually. Pittsburgh did not have a detailed schedule for inspecting and maintaining all stormwater facilities. The City's DPW Superintendent explained that BMPs are inspected and maintenance is performed on an as-needed basis, such as when either a foreman from DPW notices an issue while performing other duties or DPW receives a public complaint. The DPW Superintendent stated that inspections or maintenance of municipallyowned BMPs does not necessarily occur annually.

**Municipal Vehicles**
*Develop a Vehicle Operations and Maintenance Program*
Using the criteria and requirements described below, establish an operations and maintenance program for all municipal vehicle operations.

*Obtain materials needed for implementing the O&M Program during Year 3.*
The program that you will implement during Year 3 and beyond require some up-front planning and a few materials that you may or may not currently use at your facilities. During this permit year, prepare for implementing P2 practices related to vehicle maintenance, fueling, and washing by obtaining and/or creating the following (if you don't already have them)(these costs are typically NOT reimbursable under Act 167):

- Dry absorbent material (e.g. kitty litter, straw, or sawdust) for cleaning up spills;
- Receptacles for disposal of oily rags, used filters, batteries, spent coolants, degreasers, etc.;
- Drip pans for fluid collection and recycling;
- Covered or previous (e.g., gravel or grass) washing areas;
- Signs that remind employees of P2 practices.

**Year 3: Implement O&M Program**

By the end of year three, you must put the following policies and practices into place. You will use the training program described in the next section of this Minimum Control Measure as the primary method of educating employees about these procedures.

Since many of these activities are easy-to-implement procedures, any additional costs to the municipality are not reimbursable under Act 167.

**Vehicle Maintenance, Fueling, and Washing** Fueling:

- Place overfill prevention equipment on Underground Storage Tanks (USTs). Watch the transfer constantly to prevent overfilling and spilling (NOTE: this is not Act 167 reimbursable)
- Discourage "topping off" of fuel tanks through training and posting signs
- Avoid cleaning fueling areas with running water. Consider using a damp cloth on the pumps and a damp mop on the pavement rather than a hose
- Control spills immediately. Small spills can be cleaned up with rags and larger spills can be cleaned with dry absorbent material such as kitty litter, straw or sawdust. **Do not wash petroleum spills into the storm drain.**

Maintenance:

- Make proper disposal of greasy rags, oil filters, air filters, batteries, spent coolant, degreasers, etc. easy by providing appropriate receptacles. Locate waste and recycling drums in properly controlled areas off the yard, preferably areas with a concrete slab and secondary containment
- Avoid hosing down work areas
- Put leaking vehicles coming in for service under cover or immediately place drip pans under them
- Collect leaking or dripping fluids in drip pans or containers
- Keep a drip pan under the vehicle while you unclip hoses, unscrew filters, or remove other parts
- Do not pour liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections
- Place oil filters in a funnel over the waste oil recycling or disposal collection tank to drain excess oil before disposal, then crush and recycle oil filters; ask your oil supplier or recycler about recycling oil filters.

Washing:

- If possible, utilize commercial car washes. They typically recycle washwater or direct it to a wastewater treatment plant.
- Create and use designated cleaning areas, preferably indoors where wash wastewater can be recycled or directed to treatment. If indoor washing is not possible, create specific areas to wash cars on gravel, grass, or other permeable surfaces.
- Block off storm drains while washing or use an insert to catch wash water. Make inserts and dams available
- Convert to use of phosphate-free biodegradable detergents

- Pump soapy water from car washes into a sanitary sewer drain. If pumping into a drain is not feasible, pump car wash water onto grass or landscaping to provide filtration
- Be sure to check state and federal requirements regarding use of the sanitary sewer system.

Observation 12: At the time of the EPA inspection, the City's DPW staff stated that Pittsburgh had not developed a comprehensive vehicle operations and maintenance program. On December 7, 2016, the EPA Inspection Team visited the City Garage, City Construction Division, and Public Works Third Division municipal facilities. Some elements of the vehicle operations and maintenance requirements were implemented at the municipal facilities (e.g., dry absorbent material for cleaning up spills was present near fueling stations); however, other elements were not observed (e.g., signs that remind employees of P2 practices).

Pittsburgh initially explained that none of their municipal facilities discharged to the MS4; however, the PWSA Sewer System Overview Map (see Exhibit 8 in Appendix 4) appeared to show MS4 piping in the vicinity of the City Construction Division and Public Works Third Division municipal facilities. Upon visiting these facilities, the City's DPW staff stated that they were unsure if any of the facility's drains (e.g., parking lot stormwater drains, indoor floor drains) discharged to the MS4. The EPA Inspection Team requested that Pittsburgh submit documents (e.g., GIS drawings, as-builts) that identify whether the drains at the two facilities discharge to the combined sewer or the separate storm sewer (see Appendix 7). As of the date of this report,PWSA has not provided the requested documentation. They explained that the information has been requested from City staff and will be made available at a later date. Furthermore, it appeared that an outdoor grate inlet at the City Construction Division municipal facility discharged underneath A.V.R.R. Street to an outfall approximately 40 feet away (see Photographs 22 and 23 in Appendix 5). This is based on the location of the outlet pipe in the inlet, the path of the asphalt patch, and that the EPA Inspection Team observed a discharge pipe uphill of CSO outfall A-37Z (see Photographs 24-26 in Appendix 5). There was evidence of concrete washout into the grate inlet.

Observation 13: On December 7, 2016, the EPA Inspection Team visited the DPW Third Division municipal facility and observed an uncovered salt storage pile. As explained above for Observation 12, it appeared that the outdoor storm drains for this facility discharged to the MS4. The EPA Inspection Team observed an uncovered salt storage pile and street sweeping storage area located next to a drop inlet (see Photographs 27-29 in Appendix 5). The salt storage pile and street sweeping storage area was located at the top of a steep downward gradient of pavement, which the EPA Inspection Team observed had the potential to discharge towards the intersection of

Swinburne Street and Second Avenue (See Photograph 30 in Appendix 5). The EPA Inspection Team did not walk along the intersection to determine the proximity to any curb and gutter inlets.

**Stormwater Facility Maintenance**

Inspect stormwater detention/retention facilities and other BMPs:

- Follow the inspection schedule developed during Year 2. Conduct planned maintenance activities.

Inspect and clean catch basins:

- Inspect each catch basin at least once annually determine if it needs cleaning and note any repair needs. If the depth of deposits is greater than to equal to one-third the depth from the basin bottom to the invert of the lowest pipe or opening into or out of the basin (EPA, 1999), have the catch basin cleaned as soon as possible. Inspect catch basins in which debris significantly exceeds the one-third depth standard twice annually.
- Dispose of sediment and debris removed from catch basins in a proper manner, as this may be classified as hazardous waste. It will require chemical analysis to determine appropriate disposal techniques.

**Years 4 - 5: Continue Implementation of P2 Policies and Practices for the O&M Program**

Implement O&M Program initiated during Year 3:

You should continue to implement the O&M Program throughout Years 4 and 5.

Observation 14: At the time of the EPA inspection, Pittsburgh staff stated that each catch basin discharging to the MS4 is not inspected at least once annually to determine if it needs cleaning or repair. Pittsburgh staff indicated that catch basins are inspected and cleaned on an as-needed basis. During the closing conference, Pittsburgh explained that they have over 30,000 catch basins, which would require over 100 inspections each day to be in accordance with the permit. Pittsburgh explained that this number of daily inspection would not be achievable.

**Pollution Prevention & Good Housekeeping Training: What Do I Need to Do and By When?**

To meet this requirement, you must (1) conduct basic awareness training of your municipal employees regarding stormwater management and (2) ensure that your employees understand the new procedures developed in the O&M Program described in the previous section.

You must also establish a basic level of awareness of stormwater issues among municipal employees, especially those in management and those responsible for implementing the O&M Program. The educational materials provided to you under the Public Education and Outreach Minimum Control Measure will be used for that awareness training.

Training employees on proper procedures is a routine function in most municipalities. The permit requirement under this Minimum Control Measure simply involves incorporating the new procedures developed for the two target areas of the O&M Program – Inspection, maintenance and repair of stormwater facilities. The relevant employees need to know what is expected of them, based on the permit requirements and commitment of the municipality in this Protocol.

Employee training is a routine function in municipalities and therefore the costs for incorporating stormwater issues is not reimbursable under Act 167.

Observation 15: At the time of the EPA inspection, the City's DPW staff were not provided training for a basic awareness of stormwater management. DPW staff stated that facility supervisors are trained on fuel spill response, but not other aspects of stormwater management. DPW staff also said that other staff at municipal facilities do not receive basic awareness training of stormwater management.